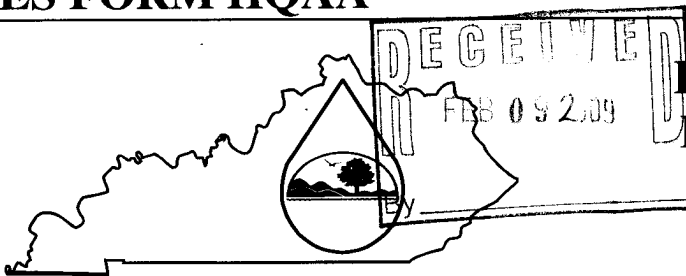


KPDES FORM HQAA



Kentucky Pollutant Discharge Elimination System (KPDES)

High Quality Water Alternative Analysis

The Antidegradation Implementation Procedures outlined in 401 KAR 5:030, Section 1(3)(b)5 allows an applicant who does not accept the effluent limitations required by subparagraphs 2 and 3 of 5:030, Section 1(2)(b) to demonstrate to the satisfaction of the Environmental and Public Protection Cabinet that no technologically or economically feasible alternatives exist and that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the water is located. The approval of a POTW's regional facility plan pursuant to 401 KAR 5:006 shall demonstrate compliance with the alternatives analysis and socioeconomic demonstration for a regional facility. This demonstration shall also include this completed form and copies of any engineering reports, economic feasibility studies, or other supporting documentation

I. Permit Information

Facility Name:	C-1 867-5290	KPDES NO.:	Pending KYGO-16353
Address:	6981 Hwy 931 N	County:	Letcher
City, State, Zip Code:	Whitesburg, Ky 41845	Receiving Water Name:	Camp Branch

II. Alternatives Analysis

- | | |
|--|--|
| | <u>Yes</u> <u>No</u> |
| 1. Has discharge to other treatment works been investigated?
(If yes, then indicate which treatment works were considered and the reasons why that discharge to these works is not feasible.) | <input checked="" type="checkbox"/> <input type="checkbox"/> |

The proposed discharge point is an existing approved discharge point on an abandoned site of a bankrupt coal company. The same discharge will exist whether this permit is approved or not. However, The Whitesburg Municipal Wastewater Treatment Facility is the closes facility to the operation and is located a little over 8.5 miles away. To pump the discharge to the facilities an impoundment structure would have to be built on-site to hold the run-off until it was pumped away. The run-off during a 25 year 24 hour storm even would generate 721,000 gallons. The cost to construct a system to transport the water from the mine site to the treatment facility would cost \$16.00 per foot to lay; 45,228 feet of 12" waterline (\$723,648), \$200,000 each for 5 pump stations (\$1,000,000), approximately 30 gate valves at \$800 each would be needed (\$24,000) The design, inspection, permitting, legal, and to purchase right-of-way would cost would cost an estimated additional \$250,000 to get the water to the treatment facility. Once the discharge reaches the treatment facility, once there treatment will cost \$3.15 per thousand gallons to treat it (\$2,321.00). The total cost of construction and pumping the discharge from the first storm event would cost \$2,072,145, and this does not include the operation, maintenance and electricity cost which could add another \$250,000 per year.

(continued)

- | | |
|---|--|
| | <u>Yes</u> <u>No</u> |
| 2. Have other discharge locations been evaluated?
(If yes, then indicate what other discharge locations have been evaluated and the reasons why these locations are not feasible.) | <input checked="" type="checkbox"/> <input type="checkbox"/> |

Other locations were looked at for the proposed face-up area. Several circumstances led to the proposed site being chosen. First, the proposed face-up is an existing area previously created to access the coal seam and has never been reclaimed. Secondly, due to the close proximity to the preparation plant, coal haulage will be limited to off road haulage only, eliminating the impact to public roads.

One benefit of the chosen location is the watershed has already been extensively mined and has existing previous disturbance therefore the additional impact will be very minimal. The branch that the pond will be discharging into already has existing discharge points from other ponds into it. (continued)

Section II – Alternatives Analysis

(1) continued

Option 1: Once the discharge reaches the treatment facility, the problems becomes municipal facilities are not designed to remove settleable solids from water; this means a settlement pond would have to be constructed at the wastewater treatment facility that would essentially be the same as having the discharge at the mine site.

Option 2: The water could be trucked to the treatment plant however a retention pond large enough to contain the water from a 25 year 24 hour storm event would have to be constructed on site, and another at the treatment facility at a cost of approximately \$60,000. Six (6) tanker trucks with a capacity of 10,000 gallon each and working three (3) 8 hour shifts could transport the water to the treatment facility in 2 days, by each truck getting 2 loads in an 8 hour shift for a total of 6 loads for each truck in a 24 hour day. The time frames listed are considering no additional rainfall occurs during these times. The trucks could be purchased at an initial cost of \$200,000 per truck (\$1,200,000).

Hauling 24 hours a day the trucks would need 18 drivers at \$22.00 hour (\$3,168/day). Fuel cost per day for the trucks would be \$1,400, this isn't counting the parts and repairs to keep the trucks maintained. And this will be for one (1) storm event. Hauling water would inevitably result in the constant tracking of mud onto the highway which would require a cleaner truck to be in operation for as long as the haulage lasts. The sweeper would need to be present for at least 2 days for the each storm event. At a rate of \$50 per hour the cost would be \$1,200 per event.

(2) continued

Other streams around the area were looked at as possible discharge sites, the other streams around the area are also of high water quality also and not listed on the list for outstanding waters. Since the proposed pond would be better suited at its proposed location since it is controlling the runoff from a face-up area for an underground mine and is located on the bench and can control the runoff and catch all sediment before it leaves the site. Other branches located to the south and southwest were evaluated for possible discharge points for the pond, Little Colly Creek and Sandlick Creek were evaluated but not chosen as options because drainage could not be established to these watersheds because of the steep terrain and elevation difference to each. Water would have to be pumped 500' feet in elevation and would require 3,550' of pipeline to get to Little Colly Creek and 10,500' to get to Sandlick Creek. The cost to install pipeline, pumps and lift stations and power lines to these would be in excess of \$400,000. The Power bill to pumps and lift stations will add additional cost of approximately \$300 per month.

Once the discharge was piped to each of these watersheds it could not simply be discharged by any simple means:

- 1) During a storm event these watersheds will also be receiving rainfall and would be increasingly prone to flooding.
- 2) To prevent high effluent loads from being released some type of treatment works as discussed in Question 1 would have to be implemented to prevent an environmental impact from the sediment.
- 3) The additional release of water could create additional erosion downstream if the flow is raised above normal levels.

Another consideration in the decision to keep the discharge in the original watershed in the loss of water to the recharge system that would be created by pumping to another area.

II. Alternatives Analysis - continued

5. Have on-site or subsurface disposal options been evaluated?
(If yes, then indicate the reasons they were not feasible.)

Yes



No



Discharge into the old underground mines in the area would be possible however the extents and condition of the mines are not known and could possibly be disastrous even deadly to the miners working in this underground operation. It would also result in the water not being treated as efficiently. Therefore the water or streams could receive more pollutants because of blowouts or unknown seeps, which would not be treatable. A treatment facility such as an underground septic system was given some consideration. However an area large enough to construct on large enough to handle all the runoff from the operation is not available. If an area was available then the disturbance to construct the facility would create more disturbance than the mine site. It would have to be constructed large enough to handle all the runoff 737,000 gallons. By using 10,000 gallon tanks in construction of these systems 737 of these would be needed. The cost of these systems would be \$1,842,000. Since these are designed for biological waste water treatment and not sediment they would have to be cleaned and maintained frequently. Cleaning of these systems would cost at least \$250,000 per year.

6. Have any other alternatives to lowering water quality been evaluated?
(If yes, then describe those alternatives evaluated and provide the reasons why these alternatives were not feasible.)

Yes



No



The only options to lowering water quality are to not mine the area. This was dismissed as the jobs of the workers are depending on having this area to mine to secure their jobs for the next five to six years. The addition of from 20 to 30 New jobs and the continuation of 100 to 110 existing jobs by this employer and further economic development in this chronically depressed region of the state (Letcher County). This would result in the loss of jobs and income for the entire community, The loss of this job alone would result in the loss of \$7,507,500 per year in lost wages and approximately \$500,000 a year in coal severance taxes being returned to the county. The only option that we have is to choose the area that will allow the coal to be mined with the least environmental impact or except the more stringent effluent limits which result in an added cost of approximately \$2,500,000 in larger permit fees and chemical treatment.

III. Socioeconomic Demonstration - continued

Yes

No

14. Does this project eliminate any other sources of discharge or pollutants?
(If so describe how.)



This project consists of a dug-out on bench sediment structure, ditches and berms when constructed will reduce the amount of pollution discharged into the water as a result of mining activities. Pollution will be decreased from the waterways when this pond is constructed and will aid in the water quality from the previous existing disturbance of the site. Upon completion of the operation the entire area including the areas of previous disturbance will be reclaimed with an excellent vegetative cover. This structure will treat the water before it enters the streams.


15. How will the increase in production levels positively affect the socioeconomic condition of the area?

An increase of production from mining in this area (Letcher county Kentucky) will provide more jobs in a region that is economically depressed were jobs are desperately needed. This in turn will improve the socioeconomic condition of the area, more jobs can be added and boost the future economy. This facility would add an additional 20-30 employees and jobs that will add an extra \$1,200,000 to \$1,800,000 into the economy and insure the employment of the existing employees. Also provide a reliable tax revenue for the areas future development and economy of Letcher county.

16. How will the increase in operational efficiency positively affect the socioeconomic condition of the area?

This operation will result in the production will result in more product (2,570,000tons of coal from this one facility) available for sale, which will insure the employment stability in the mining industry. The stability will positively affect the socioeconomic condition of the region. This will increase the tax revenues, improve the school systems for the community, road construction and maintenance and help provide monies for much needed water and sewage projects for the area (15% of all severance money is returned to the county), as well as provide cheaper electricity and other coal products.

IV Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Title:	Keith Hargrove - Manager	Telephone No.:	(606)633-0175
Signature:		Date:	01/05/09